



## *Habenaria multicaudata* Sedgw. (Orchidaceae): A little known orchid from Alagar Hills, Eastern Ghats, India

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### General Note



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### ABSTRACT

*Habenaria multicaudata* Sedgw. an endemic orchid of Peninsular India is reported for the first time from Alagar Hills, Southern Eastern Ghats. Detailed description, ecology and photographs are provided for easy identification and better understanding of this endemic orchid. A key to *Habenaria multicaudata* and its allied species is also provided.

**Key words:** Alagar hills, Endemic, Eastern Ghats, Orchid

## 1. INTRODUCTION

The genus *Habenaria* was proposed by Willdenow in 1805 in his *Species Plantarum*. It is the most prolific genera in subfamily Orchidoideae and represented with 848 species (Cribb, 2001; Kurzweil, 2009; Batista et al. 2011; Govaerts et al. 2018). The centre of diversity for this genus is Brazil, southern and central Africa, and East Asia (Kurzweil and Weber 1992). It is the third largest genus in the family Orchidaceae and Misra (2007) has listed 72 species from India. Since then three new species viz., *Habenaria andamanica*, *H. osmantonii* and *H. sahyadrica* were described from India (Karthigeyan et al. 2014; Murugan et al. 2014; Pankaj Kumar et al. 2016). About 24 species of *Habenaria* are reported from the Eastern Ghats (Reddy et al. 2001), of which 11 species are endemic to Peninsular India (Ahmedullah and Nayar, 1987; Choudhury et al. 2011; Jalal and Jayanthi 2012; Singh et al. 2015).

During floristic studies on Alagar Hills, the authors were stumbled upon by few *Habenaria* species which possess spider like flowers. Perusal of identification with the help of protologue and relevant literature (Sedgwick 1919; Santapaua & Kapadia, 1966; Saldanha and Nicolson 1976; Abraham and Vatsala, 1981; Lakshminarasimhan, 1996) it is confirmed as *Habenaria multicaudata*. This elegant ground orchid was originally described by L.J. Sedgwick (1919) based on a collection by T.R.D. Bell, Chief Conservator of Forests, Bombay Presidency in September 1917 from Gudihalli, a hill close to the sea coast near Kaswar in North Kanara. Hitherto this species has been reported only from the following hill ranges viz., Chitteri hills, Kalrayans and Shevaroy's of Eastern Ghats (Seidenfaden, 1983; Matthew 1995; Kumar et al. 2001). Thus the present collections from Alagar hills are a case of extended distribution and expand the known distribution range further south in Eastern Ghats. Hence it is reported here with detailed description, phenology, distribution, images and relevant notes are provided for better understanding of the species.

## 2. TAXONOMIC TREATMENT

***Habenaria multicaudata*** Sedgw., Rec. Bot. Surv. India 6: 352. 1919; Sant. & Kapad. Orch. Bombay: 14. 1966; Lakshminar. in Sharma & al., Fl. Maharashtra Monocot.: 41. 1996.

Terrestrial herbs, 15–25 cm high; stem erect, terete; tubers globose or ovoid-ellipsoid. Leaves simple, alternate, oblong or elliptic-oblong, 15 – 20 x 4 – 6 cm, apex subacuminate or acute, margins hyaline and wavy. Racemes terminal, lax, slender, 10 – 20 cm long, 5 to 10-flowered, pedunculate, bracteate, bracts sheathing. Flowers pedicellate, bracteate, pale brownish green to greenish white. Flowers 2.5 – 5 cm across; bracts green, many, unequal, 1.4 – 1.9 cm long, acuminate, shorter than the ovary, sheathing. Sepals greenish-brown, unequal, 3-nerved, 1.2 – 2.5 cm long; lateral sepals oblong to ovate, falcate, acute, 0.8 – 1.2 x 0.4 – 0.8 cm, distinctly oblique at base, 3-nerved; dorsal sepal 6 – 9 x 1 – 4 mm, erect, concave, ovate oblong, 3-nerved. Petals greenish brown, bipartite segments of the petals elongated contorted; upper segments linear-filiform, sub-falcate, 0.4 – 0.8 cm long; lower segment upto 1.8 cm long, contorted. Lip greenish brown in colour, 3–5 cm, longer than the sepals, tripartite, spurred, lobes unequal, spreading, segments elongate, filiform, contorted; lateral longer than the midlobe, up to 2.8 cm long, arched; midlobe linear, filiform, straight, 1.6 – 1.8 cm long. Spur dark green, 1 – 1.5 cm long, sub-clavate, shorter than pedicel, the beaked ovary curved and swollen at apex. Capsule green, 2.5 – 3 cm long, fusiform, ribbed.

**Flowering & Fruiting:** November–January.

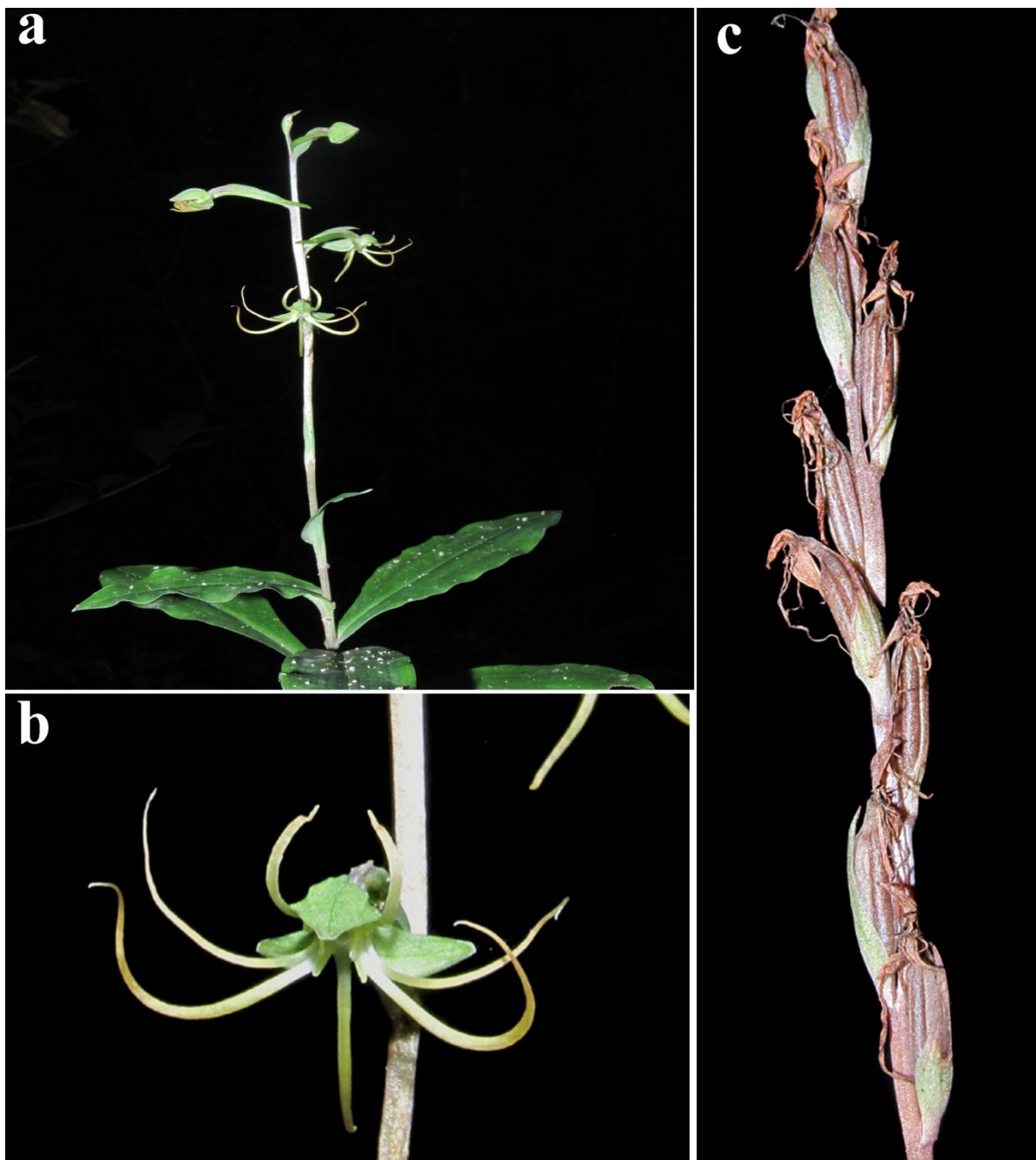
**Distribution:** INDIA (Karnataka, Kerala, Maharashtra & Tamil Nadu), Endemic to Peninsular India.

**Specimens examined:** Eastern Ghats; Madurai District; Alagar Hills, Periyaruvu valley, Kottaimuthu *et al.* 100; same place Kottaimuthu *et al.* 140 (TCH).

**Ecology:** Literature review reveals that this endemic orchid was found growing in a densely wooded part where very little light penetrates (Abraham & Vatsala, 1981).

**Biotic association:** This terrestrial orchid is rarely seen in the moist and shady localities. It prefers to grow under the shade of *Ficus microcarpa*, *Artocarpus hirsutus*, *Mangifera indica*, *Casaria tomentosa*. Common herbs includes, *Phaulopsis imbricata*, *Pseuderanthemum malabaricum*, *Habenaria plantaginea*, *Curculigo orchioides* are the common herbs often found to grow with *Anamirta cocculus*, *Embelia basal*, *Acacia caseia*, *Dioscorea hispida* are the common climbers.

**Conservation status:** The IUCN (1996) and IUCN (2000) assessed *Habenaria multicaudata* as a vulnerable orchid species of Western Ghats (Kumar et al. 2001). In Alagar Hills also it is very rare and known to occur only in the moist and shady areas of Periyaruvu valley. Kumar et al. (2001) opined that tourism, grazing, habitat loss and trampling are the major threats to the habitat. In Alagar Hills, loss of natural habitat due to fragmentation and invasion of *Senna spectabilis* var. *excelsa* have been identified as major risk factors for the decline of population.



*Habenaria multicaudata* Sedgw.:  
a-Flowering twig; b-Flower closeup, c-Capsule

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**Conflicts of Interest:** The authors declare no conflict of interest.

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